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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,038

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Joseph P Kennedy JR.

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7590

07/31/2006

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EXAMINER

WENDELL, ANDREW

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/531,038	<b>Applicant(s)</b> KENNEDY ET AL.	
	<b>Examiner</b> Andrew Wendell	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 12 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 25 is objected to because of the following informalities: "MPC" on line 6 of the claim is not spelled out. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 26 recites the limitation "the at least one translating repeater station" in line 5 of the claim. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-23 and 26-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Stein et al. (US Pat Appl# 2003/0008663).

Regarding claim 1, Stein et al. method for estimating the position of a terminal based on identification codes for transmission sources teaches in a method of determining the location of a mobile appliance in a wireless communication system (Fig. 1A) having plural base stations 104a-c (Fig. 1A) and at least one repeater 114a (Fig.

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1A) for communicating with the mobile appliance 106 (Fig. 1A), where the wireless communication system has a network overlay geolocation system (Fig. 1A) operably connected thereto, the improvement of determining (identification code) whether a signal received from the mobile appliance by the geolocation system has passed through a first repeater (Sections 0008 and 0039-0040).

Regarding claim 2, Stein et al. teaches wherein the first repeater is a tethered repeater (Section 0024).

Regarding claim 3, Stein et al. teaches wherein plural signals are received from the mobile appliance by the geolocation system and the step of determining if one of the plural signals has passed through the first repeater is based in part on a difference between the times of arrival of two of the plural signals at the geolocation system (TOA, Section 0028).

Regarding claim 4, Stein et al. teaches wherein the time difference is approximately equal to a known repeater time delay (Sections 0028, 0045-0047, and 102-104).

Regarding claim 5, Stein et al. teaches wherein the first repeater attaches a tag to the mobile appliance's signal that passes through the first repeater and the step of determining if one of the plural signals has passed through the first repeater is based in part on the geolocation system operating on the tag (Sections 0008 and 0039-0040).

Regarding claim 6, Stein et al. teaches the additional step of determining the location of the mobile appliance base in part on the determination of whether a signal

received from the mobile appliance by the geolocation system has passed through the first repeater (Sections 0008 and 0039-0040).

Regarding claim 7, Stein et al. teaches wherein plural signals are received from the mobile appliance by the geolocation system and the step of determining if one of the plural signals has passed through the first repeater is based in part on a difference between the times of arrival of two of the plural signals at the geolocation system (Sections 0028, 0045-0047, and 102-104).

Regarding claim 8, Stein et al. teaches wherein the time difference is approximately equal to a known repeater time delay (Sections 0028, 0045-0047, and 102-104).

Regarding claim 9, Stein et al. teaches wherein the first repeater attaches a tag to the mobile appliance's signal that passes through the first repeater and the step of determining if one of the plural signals has passed through the first repeater is based in part on the geolocation system operating on the tag (Sections 0008 and 0039-0040).

Regarding claim 10, Stein et al. teaches the additional step of determining the location of the mobile appliance based in part on the determination of whether a signal received from the mobile appliance by the geolocation system has passed through the first repeater (Sections 0008 and 0039-0040).

Regarding claim 11, Stein et al. teaches a method of determining the location of a mobile appliance in a wireless communication system having plural base stations 104a-c (Fig. 1A) and at least one repeater 114a (Fig. 1A) for communicating with the mobile appliance 106 (Fig. 1A), and a mobile positioning center 130 (Fig. 1A), and

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wherein the at least one repeater is connected with a communication tether to the base station (Section 0024), and the mobile position center provides mobile information to the geolocation system, the improvement comprising the step of monitoring the communication system with the geolocation system and determining if a target mobile appliance is served (identification code) by the at least one repeater (Sections 0008 and 0039-0040).

Regarding claim 12, Stein et al. teaches wherein the geolocation sensors monitor (identification code) the tether between the at least one repeater and an antenna feed interface for the mobile appliance's signal (Sections 0008 and 0039-0040).

Regarding claim 13, Stein et al. teaches adjusting the time of arrival of the mobile appliances signal based on the determination if the mobile appliance is being served by the one of the at least one repeaters (Sections 0028, 0035, 0039-0040, and 0047).

Regarding claim 14, Stein et al. teaches wherein the mobile appliance's signal is a traffic signal (Section 0025).

Regarding claim 15, Stein et al. teaches wherein the mobile appliance's signal is a reverse pilot signal (Section 0025).

Regarding claim 16, Stein et al. teaches wherein the mobile information is control information (Sections 0025, 0027, and 0037).

Regarding claim 17, Stein et al. teaches wherein the control information is call set up information or mobile registration process information (Sections 0025, 0027, and 0037).

Regarding claim 18, Stein et al. teaches adjusting the time of arrival of the mobile signal at the geolocation sensor with known time delays of the at least one repeater and communication tether (Sections 0028, 0035, 0039-0040, and 0047).

Regarding claim 19, Stein et al. teaches the step of adjusting the time of arrival of the mobile signal at another of the plural geolocation sensors with known time delays of another one of the at least one repeater and respective communication tether (Sections 0028, 0035, 0039-0040, and 0047).

Regarding claim 20, Stein et al. teaches the step of accessing with the geolocation sensors the known time delays from a database 130 (Fig. 1A).

Regarding claim 21, Stein et al. teaches wherein the adjusted time of arrivals are used by the geolocation sensors in determining the location of the mobile appliance (Sections 0028, 0035, 0039-0040, and 0047).

Regarding claim 22, Stein et al. teaches a method of determining the location of a mobile appliance in a wireless communication system (Section 0007) having plural base stations 104a-c (Fig. 1A) and at least one repeater station 114a (Fig. 1A) for communicating with the mobile appliance 106 (Fig. 1A), wherein each of the at least one repeater station are connected to a respective one of the plural base stations with a communication tether (Section 0024), the improvement comprising the steps of detecting signals (identification code) from a target mobile appliance on the communication tether (Sections 0008 and 0039-0040) and using a known delay attributed to the communication tether and the respective at least one repeater station

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to determine the location of the target mobile appliance (Sections 0028, 0035, 0039-0040, and 0047).

Regarding claim 23, Stein et al. teaches detecting signals from the target mobile appliance on another of the at least one repeater station's communication tether and using another known delay attributed to the another repeater station and the respective communication tether to determine the location of the target mobile appliance (Sections 0028, 0035, 0039-0040, and 0047).

Regarding claim 26, Stein et al. teaches a method for determining the location of a mobile appliance in a wireless communication system (Section 0007) having plural base stations 104a-c (Fig. 1A) and at least one repeater station 114a (Fig. 1A) for communicating with the mobile appliance 106 (Fig. 1A), wherein each of the at least one repeater station are connected to a respective one of the plural base stations with a communication tether (Section 0024), wherein the at least one translating repeater station relays a mobile appliance's signal on a different channel than the signal transmitted by the mobile appliance (Section 0116), the improvement comprising relaying from the at least one repeater station information regarding the channel of the mobile appliance's signal to a geolocation system and using the information to detect the mobile appliance's signal and calculate the mobile appliance's location (Sections 0008 and 0039-0040).

Regarding claim 27, Stein et al. teaches wherein the channel is defined by a frequency (Section 0116).



Regarding claim 28, Stein et al. teaches wherein the channel is defined by a time slot (Sections 0027 and 0044-0045).

Regarding claim 29, Stein et al. teaches wherein the channel is defined by a spreading code (Sections 0010 and 0044).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 24-25 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al. (US Pat Appl# 2003/0008663) in view of Kennedy et al. (US Pat Appl# 2004/0043775).

Regarding claim 24, Stein et al. method for estimating the position of a terminal based on identification codes for transmission sources teaches the limitations in claim 22. Stein et al. teaches the steps of locating the respective at least one repeater stations based on mobile information parameters received (Sections 0008 and 0039-0040) and using the location of the at least one repeater station to determine the location of the target mobile appliance (Sections 0008 and 0039-0040). Stein et al. fails to teach a mobile positioning center.

Kennedy et al. tasking and reporting method and implementation for wireless appliance location systems teaches a mobile positioning center 150 (Fig. 1).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a mobile positioning center as taught by Kennedy et al. into Stein et al. method for estimating the position of a terminal based on identification codes for transmission sources in order to find geolocation of a mobile appliance that are under different interface protocol standards (Section 0016).

Regarding claim 25, Stein et al. teaches a method for determining the location of a mobile appliance in a wireless communication system (Section 0007) having plural base stations 104a-c (Fig. 1A) and at least one repeater station 114a-c (Fig. 1A) for communicating with the mobile appliance, wherein each of the at least one repeater stations are connected to a respective one of the plural base stations with a communication tether (Section 0024), the improvement comprising determining the location of the repeater station using mobile information parameters and using the location of the repeater station as the location of the mobile appliance (Sections 0008 and 0039-0040). Stein et al. fails to teach a mobile positioning center

Kennedy et al. teaches a mobile positioning center 150 (Fig. 1).

Regarding claim 30, Stein et al. teaches a method for determining the location of a mobile appliance in a wireless communication system (Section 0007) having plural base stations 104a-c (Fig. 1A) and plural repeaters 114a-c (Fig. 1A), wherein the repeaters relay the mobile appliances signal on the same channel as the channel in which the signal was received (Sections 0024-0025 and 0033), the improvement of using the first signal received from the mobile appliance at each of the plural base

stations to determine the location of the mobile appliance (Sections 0008 and 0039-0040). Stein et al. fails to teach a mobile positioning center.

Kennedy et al. teaches a mobile positioning center 150 (Fig. 1) provides mobile information to assist in the location of the mobile appliance (Sections 0026-0027).

Regarding claim 31, the combination including Stein et al. teaches wherein the channel is defined by a frequency (Section 0116).

Regarding claim 32, the combination including Stein et al. teaches wherein the channel is defined by a time slot (Sections 0027 and 0044-0045).

Regarding claim 33, the combination including Stein et al. teaches wherein the channel is defined by a spreading code (Sections 0010 and 0044).

4. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al. (US Pat Appl# 2003/0008663) in view of Bloebaum (US Pat# 6,188,351).

Regarding claim 34, Stein et al. apparatus for estimating the position of a terminal based on identification codes for transmission sources teaches a network overlay geolocation system for locating a mobile in a host wireless communication system (Section 0007), the host wireless communication system having a base station 104a-c (Fig. 1A) and a repeater station 114a (Fig. 1A) connected by a communication tether (Section 0024), the network overlay geolocation system comprising a geolocation sensor (sensing identification code and position of mobile device, Sections 0008 and 0039-0040) attached to the communication tether (Section 0024) between the base station 114a-c (Fig. 1A) and the repeater station 114a (Fig. 1A). Stein fails to clearly teach a geolocation sensor.

Bloebaum's improving signal acquisition in a global positioning system receiver teaches a geolocation sensor GPS (Fig. 1a) attached to a base station BTS sub 3 (Fig. 1a).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a geolocation sensor as taught by Bloebaum into Stein et al. apparatus for estimating the position of a terminal based on identification codes for transmission sources in order to reduce latency in calculating the user's position (Col. 3 lines 54-63).

5. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al. (US Pat Appl# 2003/0008663) in view of Bloebaum (US Pat# 6,188,351) and further in view of Kennedy et al. (US Pat Appl# 2004/0043775).

Regarding claim 35, Stein et al. apparatus for estimating the position of a terminal based on identification codes for transmission sources teaches a base station 104a (Fig. 1a) and a repeater station 114a (Fig. 1a) interconnected by a communication tether (Section 0024); for providing mobile information; a network overlay geolocation system with a geolocation sensor co-located at the base station (sensing identification code and position of mobile device, Sections 0008 and 0039-0040); wherein the tether is connected to the base station at an antenna feed interface (Section 0024). Stein et al. fails to teach a geolocation sensor and mobile positioning center.

Bloebaum's improving signal acquisition in a global positioning system receiver teaches a geolocation sensor GPS (Fig. 1a) located on the tether prior to the interface (to a base station BTS sub 3 (Fig. 1a)).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a geolocation sensor as taught by Bloebaum into Stein et al. apparatus for estimating the position of a terminal based on identification codes for transmission sources in order to reduce latency in calculating the user's position (Col. 3 lines 54-63).

Both Stein et al. and Bloebaum fail to teach a mobile positioning center.

Kennedy et al. tasking and reporting method and implementation for wireless appliance location systems teaches a mobile positioning center 150 (Fig. 1).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a mobile positioning center as taught by Kennedy et al. into a geolocation sensor as taught by Bloebaum into Stein et al. method for estimating the position of a terminal based on identification codes for transmission sources in order to find geolocation of a mobile appliance that are under different interface protocol standards (Section 0016).

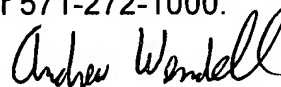
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

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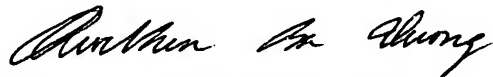
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Andrew Wendell  
Examiner  
Art Unit 2618

7/18/2006

 7/24/06

QUOCHIEN B. VUONG  
PRIMARY EXAMINER